

### **REMARKS**

Claims 1-21 are pending in the present application. In the Office Action mailed June 13, 2007, the Examiner rejected claims 1, 2, 4, 6, and 10 on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 4, 5, 6, and 10 of Zhou et al. (USP 6,967,549) in view of Penrod (USP 4,152,634). Applicant appreciates the indication of allowability of claims 3, 6-9, 11-15, and 16-21.

In setting forth the rejection of the claims of the present Application over the art of record, the Examiner did not address claim 5 in either the substantive rejection or the Office Action Summary. With no indication to the contrary, Applicant assumes claim 5 is allowable and respectfully requests the Examiner's indication thereof. Nonetheless, should the Examiner not find the application in condition for allowance, Applicant requests clarification and examination of claim 5; and therefore, any subsequent action should be non-final to afford Applicant an opportunity to respond.

The Examiner rejected claims 1, 2, 4, 6, and 10 of the present Application [hereinafter "Kinsella"] on the ground of non-statutory obviousness-type double patenting as being unpatentable over claims 1, 4, 5, 6, and 10 of Zhou et al. in view of Penrod. Applicant respectfully disagrees. As defined by MPEP §804, a non-statutory obviousness-type double patenting rejection should make clear (A) the differences between claims of the patent compared to claims of the application, and (B) the reasons why a person of ordinary skill in the art would conclude the invention defined in the application is an obvious variation of the invention defined in a claim of the patent. As will be described in more detail below, Applicant believes that the differences between the claims of Zhou et al. and Kinsella do **not** support a double patenting rejection under MPEP §804. Furthermore, Applicant believes one of ordinary skill in the art would **not** conclude the invention defined in Kinsella is an obvious variation of the invention defined in Zhou et al.

Applicant will first address the comparison of the invention defined by the claims of Kinsella to the invention defined by the claims of Zhou et al. On page 4 of the Office Action, the Examiner paraphrased both claim 1 of Zhou et al. and claim 1 of the current Application and highlighted a key difference between the claims – namely that Zhou et al. is “configured to initially **open** only one set of contacts when an **open** condition is desired and then **open** a remaining set of contacts after the one set of contacts is open” while Kinsella claims “**closing** at least a first contactor” and “thereafter closing another contactor . . . at a prescribed moment following the **closing** of the first contactor.” *Office Action*, 06/13/07, pg. 4 (emphasis in original).

In addition to the fact that claim 1 of Kinsella calls for **closing** contactors while claim 1 of Zhou et al. calls for **opening** contactors, other key differences between the claims exist as well. For example, Kinsella specifically claims closing a contactor **at a first phase angle following a voltage zero-crossing in the system**, while claim 1 of Zhou et al. calls for opening a set of contacts **when an open condition is desired** without further defining what the open condition is.

Likewise, material differences exist between claim 10 of Kinsella and claim 10 of Zhou et al. Initially, Applicant notes that the Examiner did not specifically address any elements of claim 10 of Kinsella with respect to the claims of Zhou et al. in the June 13, 2007 Office Action. Claim 10 of Kinsella calls for a controller configured to cause less than all the contacts to **engage** (i.e., close) when the controller receives a closed circuit command signal. Claim 10 of Zhou et al., on the other hand, calls for a controller configured to **open** one set of contacts when an open condition is desired and after opening the one set of contacts, open all remaining contacts. At least two key differences exist between these claims. First, claim 10 of Kinsella is directed to **close** contacts after receiving a **closed circuit command signal**, while claim 10 of Zhou et al. is directed to **open** contacts if an **open condition** is desired. Second, claim 10 of Kinsella calls only for closing **less than all** contacts following the command signal, while claim 10 of Zhou et al. initially opens **one set** of contacts following an open condition and then opens **all remaining** contacts. That is, Kinsella **closes less than all contacts** and Zhou et al. opens a first set and then all remaining contacts. The operations are different and the reasons to do so are different.

Despite these material differences between the claims of Kinsella and Zhou et al. (some of which were explicitly acknowledged by the Examiner), the Examiner asserts that it would have been obvious to modify the claimed invention of Zhou et al. in view of Penrod to control “the contactor to close . . . as well as open . . . after a fault, to either disconnect power when a fault is detected or restore power after a fault is cleared, to prevent arcing between the contacts of a contactor.” *Office Action*, supra at pg. 5. Applicant respectfully disagrees.

If anything, the Examiner’s statement supports patentability of the claims of the present claims, rather than supporting the Examiner’s double patenting rejection. Assuming the Examiner qualifies as “one of ordinary skill in the art,” the Examiner’s above statement essentially concludes that one of ordinary skill combining Zhou et al. and Penrod would arrive at a controller that controls a contactor to either open a contactor “to disconnect power when a fault is detected or” close a contactor to “restore power after a fault is cleared.” *Id.* Such a system is **not** called for in the claims of Kinsella nor is such a system described in the specification thereof.

Kinsella claims a method of controlling contactor switching that closes a first contactor at a specific phase angle following a voltage zero-crossing of the system and then closes another contactor at a second phase angle following the closing of the first contactor. As described in the specification, Kinsella monitors voltage in an electrical system and utilizes a point-on-wave switching technique in order to close contactors at specified points on the waveform. *Specification*, ¶57. As such, Kinsella discloses closing contactors based on receipt of command signals indicative of the specified waveform locations, not the detection of the occurrence or clearance of power faults as the Examiner asserts is suggested by a combination of Zhou et al. and Penrod. In light of at least this key difference between Kinsella and the combination of Zhou et al. and Penrod as made by one of ordinary skill in the art, Applicant believes it would **not** have been obvious of one of ordinary skill in the art to combine Zhou et al. and Penrod to arrive at the invention claimed by Kinsella.

Furthermore, Applicant believes one of ordinary skill in the art would not have been motivated to combine Zhou et al. and Penrod as a combination of the two makes Zhou et al. inoperable for its intended purpose. As stated in MPEP §2145, the “claimed combination cannot change the principle of operation of the primary reference or render the reference inoperable for its intended purpose.”

Zhou et al. discloses a system of contactors wherein each contactor includes multiple contact assemblies. The contactors within a single contactor assembly can be independently controlled so one contactor can be opened without opening other contactors of the contactor assembly. *Zhou et al.*, Abstract. Figure 4 of Zhou et al. depicts two such contactor assemblies 66 and 68. Within contactor assembly 66, are three contactors 72A-C that are designed such that each contactor may be independently opened without opening the remaining contactors of contactor assembly 66. *Id.*, col. 6, lns. 42-63; col. 7, lns. 14-23. Allowing such independent contactor opening minimizes arcing in the contactors. *See id.* at col. 10, lns. 51-64.

Penrod discloses a power contactor including a power relay with main contacts having arc suppression means connected between a power source and a load. *Penrod*, Abstract. A steering relay with auxiliary contacts without arc suppression means is included between the power relay and the load. *Id.* The auxiliary contacts do not require arc suppression means because the system does not allow the auxiliary contacts to open or close when the main contacts are closed and current is flowing between the power source and the load. *Id.* at col. 1, lns. 36-40.

While both Zhou et al. and Penrod seek to provide solutions to arcing between contacts, the arc suppression solution provided by Zhou et al. corrects problems inherent in a device such

as that disclosed by Penrod. Specifically, Zhou et al. minimizes arcing in the primary contacts themselves and thus does not require intermediary or auxiliary second set of contacts as required by Penrod to minimize arcing. As such, combining Zhou et al with the teachings of Penrod ignores the advancements of Zhou et al. over the prior art and changes the principle of operation of Zhou et al. Therefore, such a combination is contrary to the limitations set forth in MPEP §2145.

For at least all these reasons, Applicant believes the rejection of claims 1, 2, 4, 6, and 10 on the ground of non-statutory obviousness-type double patenting is improper. As such, Applicant respectfully requests withdrawal thereof.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-21.

Applicant appreciates the Examiner's consideration of these Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

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**General Authorization and Extension of Time**

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 50-2623. Should no proper payment be enclosed herewith, as by credit card authorization being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No 50-2623. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extensions under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 50-2623. Please consider this a general authorization to charge any fee that is due in this case, if not otherwise timely paid, to Deposit Account No. 50-2623.

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